

MODEL ROCKETRY



A DAMON COMPANY

SPRING 1980

Introducing

ESTES
Electri-Flyers™

Electric Powered Aircraft

Plus

NEW 1980 Model Rockets!



INSIDE!
Valuable Bonus
Coupons Worth Up To
\$53.47 In Discounts! And
Special Offers!
See Pages 17, 19, & 21

**3 FREE
SUPER-POWERED D12-3
ENGINES (\$4.25 Value)**
when you purchase
a Maxi-Brute!
See page 17 for Special
Bonus Coupon!

German V-2

Skill Level 3

Giant scale model of the ground-to-ground ballistic missile developed at Peenemunde before and during World War II.

This 1/19th scale Maxi-Brute features "D" engine power, detailed plastic nose cone, dual 24" parachute recovery and pre-shaped fins.

**Recommended
Engine: D12-3**

Cat. No. 1267

ONLY \$22.95

**NEARLY
3-FEET
TALL**

GIANT MAXI- BRUTES! PERSHING-1A

Skill Level 3

This Maxi-Brute is a true scale model of the U.S. Army's surface-to-surface ballistic missile. Our 1/10 scale model is "D" engine powered with three-color decals, pre-shaped fins, detailed molded plastic nose cone, and dual 24" parachute recovery.

**Recommended Engine
D12-3**

Cat. No. 1268

ONLY \$22.95

**OVER
3-FEET
TALL**

A 3/16" launch rod (#2239) is recommended for best lift-off results. Ship. Wt. 2 lbs. per model.



**OVER
3-FEET
TALL**

**HONEST
JOHN**

Skill Level 3

Our newest Maxi-Brute is a 1/9th scale model of the famous U.S. Army surface-to-surface, supersonic ballistic missile.

Highly detailed model uses single "D" engine for power and comes with pre-shaped, accurately scaled fins and molded plastic nose cone. Spectacular recovery with giant, dual 24" orange and white canopy chutes.

**Recommended Engine
D12-3**

Cat. No. 1269

ONLY \$22.95

See pages 17, 19, & 21
for discounts and
Special Bonus
Coupons!

Unless otherwise stated, all the model rocketry kits in this catalog are hobby kits requiring assembly. Launch system, engines, glue, and finishing supplies are not included. Recommended for ages 10 to adult. Adult supervision suggested for those under 12 years of age when flying model rockets.

© Estes Industries, 1980.

Dear Estes Rocketeer,

It's Spring 1980 and a variety of "New" Estes model rockets are available Now! See pages 4, 5, 6, and 7 for a complete rundown on new starships like the Federation Star Probe and Space Transporter America. In addition, there's several all new sport fliers like the Sea Strike "D" and Maxi-Icarus, plus realistic scale models of the A.L.C.M Cruise Missile and NASA Space Shuttle Orbiter. When you purchase any one of these or other new kit, like the incredible Galactic Pirates' Patrol Cruiser Excalibur or Dragonship 7, you'll also receive a FREE 18" parachute with our compliments.

We are also proud to introduce ESTES ELECTRI-FLYERS™, electric powered model aircraft featured on pages 8 and 9. These newest Estes products represent the very latest technology and innovative design in model airplanes. Quiet, clean, and easy-to-assemble, these new planes will deliver consistent, repeatable performances at costs much less than conventional gas-powered model airplanes.

Especially for our STAR WARS™ fans we've included an MRN, "Flash Preview", of the latest STAR WARS™ science fiction extravaganza, "The Empire Strikes Back"™. On pages 10 and 11 you'll also find several super STAR WARS™ special offers.

To thank you for being an active Estes Rocketeer, we're featuring more special Bonus Coupons than ever before, adding up to \$53.47 in Discounts and Special Offers to you. See pages 17, 19, and 21.

Finally, the MRN will tell you about the 1980 World Space Modeling Championships, "The Olympics of Model Rocketry" and the United States Model Rocketry Team. See pages 27 & 28. You can help our U.S. Team "Bring Home The Gold For America", by purchasing and displaying the "Official" meet patch pictured below.

Stick with Estes in the Eighties for the best in space and science fiction flying adventure. We're glad to have you aboard to enjoy the most exciting hobby on Earth.

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May The Force Be With You!

Vern Estes

Vern

'80



SUPPORT YOUR 1980 ★★ UNITED STATES ★★ MODEL ROCKETRY TEAM

From September 7 thru 12, 1980 at Lakehurst, New Jersey, the United States will sponsor the Fourth World Space Modeling Championships, "The Olympics of Model Rocketry".



Get this "Official" meet patch now and display your support for our U.S. team. Dramatic Red, White and Blue cloth patch is 3-1/2" diameter. All net proceeds from patch sales go towards U.S. team and meet funding. Help our U.S. team "Bring Home The Gold For America". Cat. No. 9020 Only \$3.50

'80



1980 New Products



SPACE TRANSPORTER AMERICA

NEW!

Skill Level 3
Scale-like model suggests America's future "single-stage-to-orbit"

(SSTO) concept. Gigantic space booster will carry huge payloads into Earth orbit and then return like an airplane. Kit includes plastic injection molded nose cone and display tail unit with scale engine nozzles, die-cut and pre-printed balsa fins and quick-release engine mount. Big, 3-color kit decal has official space shuttle markings. Really impressive flights with 18" recovery parachute. Ship. Wt. 11 oz.

Recommended Engines
B4-2 B6-4 (First Flight) C6-5

Cat. No. 1338 **Only \$7.00**



SEA STRIKE

Skill Level 3
Scale-like ship-to-air missile with two-stage super "D" engine power. High performance design for incredible 1,800 foot flights. Huge, four-color decal sheet for realistic military appearance. Features include die-cut balsa fins, plastic nose cone, tumble recovery booster, and 12" parachute recovery for the upper stage. Ship. Wt. 15 oz.

Recommended Engines
SINGLE STAGE TWO STAGE
D11-9 D12-5 (First Flight) D12-7
D12-7 D12-0 D11-9

Cat. No. 1332

Only \$7.00

"FREE" 18" Parachute
when you purchase
any one of these
"NEW" 1980 kits.

(Limit One 'Chute Per Customer)
See Page 17 For Special Savings Coupons!!

WORLD FEDERATION STAR PROBE

NEW!

Skill Level 3
Our engineer's conception of deep space exploratory craft. Powered by atom fueled Nerva thrusters, this futuristic interplanetary voyager utilizes advanced "Loop-Fin" stabilization. Its mission is to peacefully seek-out and discover other life forms. Actual kit includes die-cut balsa fins, plastic nose cone with canopy, quick-release engine mount, and large kit decal. Unique "Loop-Fin" design delivers spectacular flights with 12" recovery parachute. Ship. Wt. 10 oz.

Recommended Engines
A8-3 B4-2 B4-4 B6-2 B6-4 (First Flight) B8-5 B14-5 C6-5 C6-7

Cat. No. 1341 **Only \$6.00**



BOEING A.L.C.M. CRUISE MISSILE

NEW!

Skill Level 4

The Boeing A.L.C.M. Cruise Missile is America's newest weapon system. Designed to be launched from a large aircraft like the Lockheed C-5A Galaxy or the B-52 Bomber, the Cruise Missile can deliver a nuclear warhead with pin-point accuracy to its target. Once launched, the wings and fins deploy and a ram-jet engine cuts-in providing high speed power to the missile. Sophisticated radar interfaced with an advanced on board computer guides the Cruise Missile at tree-top altitudes over enemy terrain. The Estes near-scale version of this vehicle is a challenging model with blow-molded plastic body, die-cut plastic fins & wings, and injection molded plastic parts. Also featured is a four-color decal sheet, 12" parachute recovery, and wings which swing-out for display. Ship. Wt. 12 oz.

Recommended Engines
A8-3 B4-4 (First Flight) B6-4 B8-5 B14-5 C6-5

Cat. No. 1336 **Only \$8.00**



Maxi Icarus

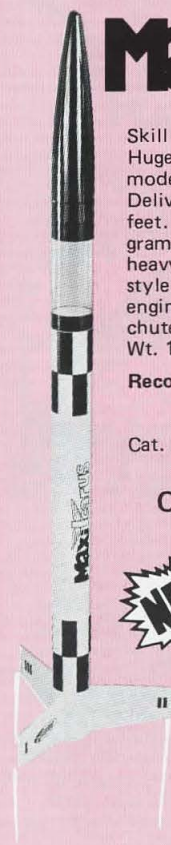
Skill Level 2
Huge super "D" engine powered payload model with large see-thru cargo section. Delivers spectacular flights over 1,000 feet. Over 6 cubic inches or up to 80 grams of payload capacity. Includes heavy duty die-cut balsa fins, NASA style roll pattern decal, quick-release engine mount, and big 18" parachute for gentle recovery. Ship. Wt. 14 oz.

Recommended Engine
D12-5

Cat. No. 1331

Only \$8.00

NEW!



BLUE BIRD ZERO

NEW!

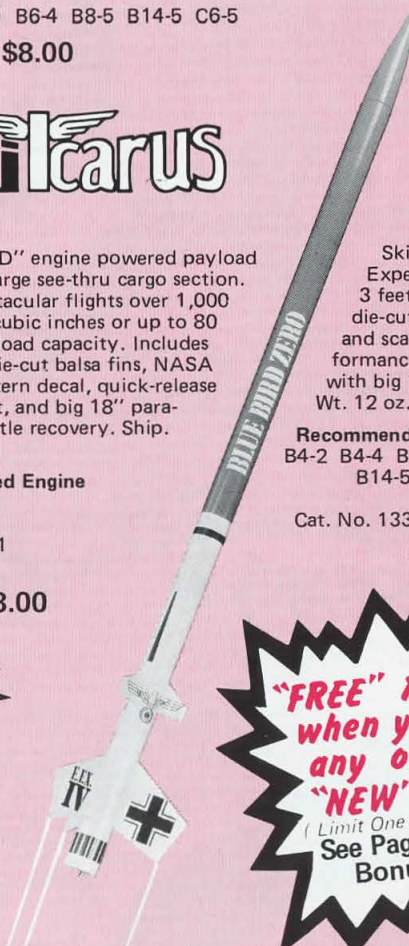
Skill Level 2
Experimental sounding design over 3 feet tall. Easy-to-assemble with die-cut balsa fins, plastic nose cone, and scale-like kit decals. High performance flights and gentle recovery with big 18" recovery 'chute. Ship. Wt. 12 oz.

Recommended Engines
B4-2 B4-4 B6-2 B6-4 (First Flight) B8-5 B14-5 C6-5 C6-7

Cat. No. 1335 **Only \$6.00**

"FREE" 18" Parachute
when you purchase
any one of these
"NEW" 1980 kits.

(Limit One 'Chute Per Customer)
See Page 17 For Special Bonus Coupon!



Engines, Launch System, Glue, and Paint not included.

"Fly Model Rocketry's Largest Scale Space Shuttle Orbiter!"

NASA SPACE SHUTTLE ORBITER

Skill Level 2
Dramatic 1/87th semi-scale (H.O. Scale) NASA Space Shuttle with revolutionary new "SkyLite" skinned foam plastic construction. Easily assembled with molded plastic nose cone, vertical stabilizer fin, rear fuselage, and engine nozzle detail which removes for flight. Delivers spectacular flights over 400' and returns to Earth via huge 18" recovery parachute. Also features realistic kit decals and quick-release engine mount. Ship. Wt. 16 oz.

Recommended Engines
B4-2 (First Flight) B6-2
C5-3 C6-3

Cat. No. 1337 **Only \$12.00**

Features NEW
"SkyLite" skinned foam plastic parts for easy, quick assembly!



PATROL CRUISER EXCALIBUR

"The Good Guy"

Skill Level 3
Sleek and powerful, the Excalibur is the pride of the Intergalactic Patrol. Hidden in the ship's nose, on a retractable carriage is a quad mounted, choke barrel, Hyper-Ballistic Vacuum Gun. Speeds in the Star-Fall category are possible and range is reported to be 63 Billion miles without refueling. Our scale model of this heroic spaceship features die-cut balsa fins, plastic nose cone, quick-release engine mount and large "Galactic Pirates" decal sheet. Delivers really spectacular flights with big 18" parachute recovery. Ship. Wt. 12 oz.

Recommended Engines
A8-3 B4-4 (First Flight)
B6-4 C5-3 C6-3

Cat. No. 1339 **Only \$7.00**

GALACTIC PIRATES

DRAGON SHIP 7

"The Bad Guy"

Skill Level 3
Dreaded Dragonship of the Outlaw Galactic Pirate Confederacy. Dragonship 7, based on the asteroid Greb-Sing, is an outstanding example of evil technical genius. The ship's Twin Hydron-Stethode Cannon furnish a firepower of the Seventh Magnitude. This alien marauder from deep space is aptly named and universally feared. The Estes version of this villainous craft includes die-cut balsa fins, plastic nose cone, quick-release engine mount, and large "Galactic Pirates" decal sheet. Dramatic recovery with big 18" recovery parachute. Ship. Wt. 12 oz.

Recommended Engines
A8-3 B4-4 (First Flight)
B6-4 B8-5 B14-5 C6-5

Cat. No. 1345 **Only \$7.00**



Now a spectacular motion picture from Walt Disney Studios.

Skill Level 2
Space Probe Rocket can attain altitudes over 700 feet with "C" type engine. A 12" recovery parachute deploys automatically for a safe flight and gentle recovery every time.

Space Probe Outfit includes (3) model rocket engines, parachute recovery wadding, and Solar Igniters for three exciting flights. Space Probe Launcher features easy-to-assemble control unit. Includes safety interlock key, arming light, remote launch cable, and launch rod safety cap. Ship. Wt. 1 lb.

Cat. No. 1426

Reg. \$16.00

Space Probe FLYING MODEL ROCKET OUTFIT



SAVE \$3.00
BLACKHOLE OUTFIT
Now Only \$13.00
See Page 17 For Special Bonus Coupon!

RENDEZVOUS WITH THE ULTIMATE FORCE IN THE UNIVERSE...

SAVE \$2.00
SPACE PROBE
Now Only \$5.00
See Page 19 For Special Bonus Coupon!

Space Probe

FLYING MODEL ROCKET

Skill Level 2
Features include die-cut balsa fins, quick-release engine mount, plastic nose cone and display nozzle, plus 12" parachute recovery. Ship. Wt. 10 oz.

Recommended Engines
A8-3 (First Flight) B4-4 B6-4 B8-5 C6-5

Cat. No. 1350

Reg. \$7.00

(Not Available In Canada)

© 1979 Walt Disney Productions

Build and fly the first spaceship to travel beyond the universe!

ESTES

Electri-Flyers™

NEW!


SKYMASTER ELECTRIC TRAINER

Wing Span 48"
Length 34"
Flying Wt. w/Estes SkyMax E.M. System 2000 - Approx. 48 oz.
Designed to accept Estes SkyMax Electric Motor or
a .15 or .19 gas engine.

Molded lightweight "SkyLite"™ foam wing and tail with rigid vinyl, thermally bonded skin have been tested at 10G at 3.5 lb. airplane weight. Features vacuformed, hi-impact, ABS plastic fuselage. No finishing required, simply add trim. Can be built and flown in one weekend. All control surfaces are factory installed. Complete instructions for fast, easy construction plus hardware, push rods, and landing gear are included. Superb flying qualities, very smooth and precise. Very docile and forgiving for the novice, yet rugged and responsive for sport flier. Kit complete except for wheels, radio, glue, prop, and motor (Estes SkyMax Electric Motor #4024 is recommended.). Ship. Wt. 4 lbs.

SkyMaster Kit Prod. No. 4048

Only \$75.00

SKYMASTER FLIGHT SYSTEM 2000

Complete SkyMaster Electric Trainer Kit (#4048) with SkyMax Electric Motor, SkyProp 14 x 8 folding prop, SkyWire wiring harness, and SkyPak 1200 MAH battery pack. Features external charging receptacles, so disassembly of airplane is not needed to recharge batteries. Ship. Wt. 5.5 lbs.

SkyMaster Flight System 2000 . . Prod. No. 4068 **Only \$155.00**

Page 8

SKY 2 METER

Wingspan 2 Meters (78.75")
For 2 or 3 channel radio
(Ailerons & elevator w/motor optional.)

Wing Area 520 sq. in.

Flying wt. w/Estes SkyMite
E.M. System 1000 - 30 to
32 oz.

Designed to accept Estes
SkyMite Electric Motor

Molded lightweight "SkyLite"™ foam wing and tail with rigid vinyl, thermally bonded skin have been tested at 7G at 2 lb. airplane weight. No finishing required, simply add trim. Can be built and flown in one weekend. All control surfaces are factory installed. Complete instructions for fast, easy construction, plus hardware and torque rods are included. Per-

**Order Now! Available For Shipment
Late Summer 1980.**

Models shown feature suggested decor only.
Kit name decal and some trim decor included
with SkyMaster and SkySailer kits. SkyCountry
kit includes kit name decal only.



SKY SAILER SAILPLANE

formance is outstanding, but docile enough for the novice. May be flown without motor, on winch, or hi-start. E193 airfoil gives excellent thermaling ability yet excels in penetration. Kit is complete except for adhesive, radio, prop, and motor (Estes SkyMite Electric Motor #4020 is recommended.). Ship. Wt. 3.25 lbs.

SkySailer Kit

Prod. No. 4044

Only \$60.00

SKYSAILER FLIGHT SYSTEM 1000

Complete SkySailer 2 Meter Sailplane Kit (#4044) with SkyMite electric motor, SkyProp 9.5 x 6 folding prop, SkyWire wiring harness, and SkyPak 500 MAH battery pack. Features external charging receptacles, so disassembly of airplane is not needed to recharge batteries. Ship. Wt. 4 lbs.

SkySailer Flight System 1000 Prod. No. 4064

Only \$110.00

SKY COUNTRY ELECTRIC FREE FLIGHT AIRPLANE

Wing Span 52"
Stab area 110 sq. in.
Flying wt. w/Estes SkyMite E.M. System 1000 - 14 oz.
Designed to accept Estes SkyMite Electric Motor

Trophy Winning Performances:

1st and 2nd Jr. @ '79 NATS

2nd Sr. @ '79 NATS

3rd Open @ '79 NATS

All wing and stab ribs die-cut, plus die-cut plywood parts. Built specifically for Estes SkyMite electric motor and SkyProp folding prop. Warp resistant, "Geodetic" wing and stab. Selected balsa used thru-out. Full-size rolled plans. Kit is complete except for motor, prop, covering, cement, dope, 1/2A timer, and micro-switch. (Kit may be built to use TD .049 or .051 for AMA 1/2A and A F.F. gas competitions.) Ship. Wt. 2 lbs.

SkyCountry Kit Prod. No. 4040

Only \$30.00

STAR THE EMPIRE STRIKES BACK WAR™

"ROBOT HERO"

R2-D2™

Skill Level 2

Own your very own STAR WARS R2-D2 robot! Destined to become the most famous movie robot of all time, our model is 1/5 actual size and actually flies. Artoo "pops his top" in normal model rocket fashion to deploy an 18" dia. recovery parachute for landing on the planet of your choice. Kit features include a molded plastic body dome and body skirt, a precisely detailed 4-color body wrap-on, quick-change engine mount and stabilizer leg-fins. This cantankerous droid is certain to be everybody's favorite at your launch site or on your display shelf. Ship. Wt. 16 oz.

Recommended Engines

B6-2 (First Flight) C5-3 C6-3

Cat. No. 1301

Only \$9.00

"FREE NEW!"

EMERGENCY REPAIR KIT (\$2.00 VALUE)
when you purchase any one of these
STAR WARS™ Model Rocket Kits...

(#1298, #1299, #1301)

See Page 19 For Special Bonus Coupon!

A must for every range box. Features many essential materials for "on-the-spot" repair of your model rockets.

Includes:

Sandpaper Launch Rod Safety Cap
Screw Eyes Universal Safety Key
12" Parachute Recloseable Pouch
Recovery Wadding Launch Lugs
1/8" and 1/4" Shock Cords
144" Shroud Lines
Shock Cord Mounts
White Glue Packet
Tape Discs



\$2.00 VALUE

X-WING Fighter™

Skill Level 2

Scale model of the T-65 X-Wing Fighter piloted by Luke Skywalker during the Rebel Forces attack on the Imperial Death Star. Although simple to construct this model retains all the realism

and detail of the actual models used in the film. Great for demonstrations with flights over 300 feet and 12" recovery 'chute. Highly detailed with authentic 3-color decals makes it a spectacular display model too! Kit includes die-cut balsa wings, plastic fuselage, and quick-release engine mount. Small balsa fins have been added for Earth flight. Ship. Wt. 12 oz.

Recommended Engines

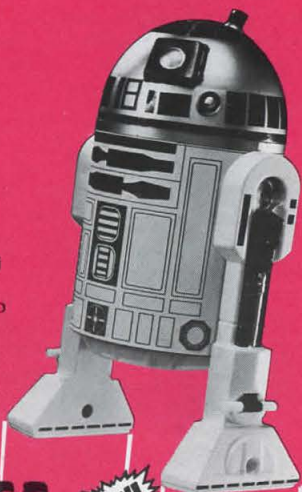
B4-2 B6-2 C5-3 C6-3 (First Flight)

Cat. No. 1298

Only \$9.00

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Page 10

Flying Model Rockets!



3 FREE SUPER POWERED D12-3 ENGINES (\$4.25 Value) when you purchase a Maxi X-Wing Fighter™.
See Page 19 For Special Bonus Coupon!



Exact Size Used by STAR WARS™ Special Effects Team. Over 16" Wingspan & Nearly 22" Long.

MAXI-BRUTE! X-WING Fighter™

Skill Level 2

Darth Vader and his Imperial Forces will turn and run when confronted by this huge scale replica of science fiction's most popular spacecraft. This giant T-65 X-WING FIGHTER is easy-to-assemble with fantastic detailing and authentic "Death Star" mission decor. By far the most dramatic "STAR WARS" model available for display. "D" engine powered for great performance too! Spectacular flights over 300 feet. Kit components include die-cut balsa parts and highly detailed plastic fuselage, engines and laser pods. Plus quick-release engine mount, scale decals, big 24" parachute recovery and attractive display stand. Small fins have been added for Earth flight and a 3/16" launch rod is recommended for lift-off. Ship. Wt. 2 lbs.

Recommended Engine: D12-3

Cat. No. 1302

Only \$22.95

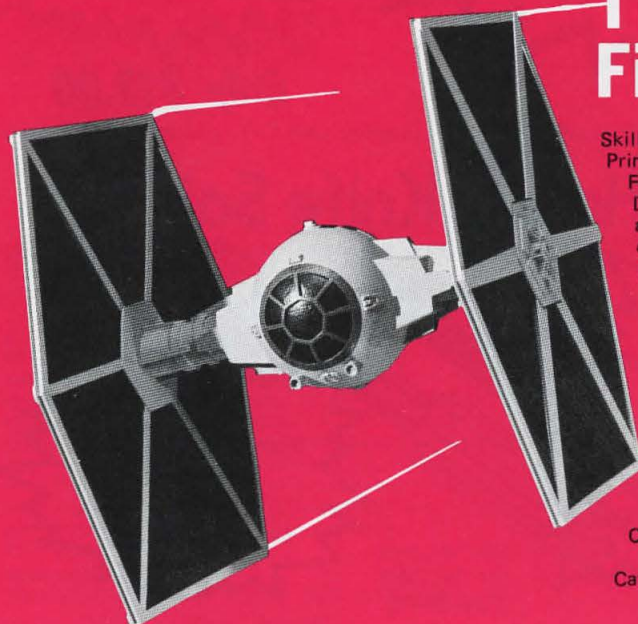
TIE Fighter™

Skill Level 3

Primary attack craft of the Imperial Forces commanded by Lord Darth Vader. Technologically advanced propulsion systems combined with its awesome appearance give the TIE Fighter an overall effect of Gothic Evil. Kit features include highly detailed, pre-colored plastic cockpit and fuselage, quick-release engine mount, and big 18" recovery 'chute. Special parachute recovery probe attaches quickly for flight and removes easily for display. Ship. Wt. 12 oz.

Recommended Engines
C5-3 (First Flight) C6-3

Cat. No. 1299 Only \$9.00



**BLAST-OFF
BONUS OFFER
SAVE \$2.70**

See Page 19 For Special
Bonus Coupon!



\$8.70 VALUE

Receive Three Each 1/2A6-0, B14-5, B14-7 and B14-0 High Performance Estes Engines Plus Igniters. A Total of One Dozen Popular Engines.

Cat. No. 1750

Only \$6.00



GIANT

\$17.20 VALUE

Receive Three Each 1/2A6-4, A8-3, A8-5, B4-6, B6-2, B6-4, C6-3 and C6-5 High Performance Estes Engines Plus Igniters. A Total Of 24 Popular Engines.

Ship. Wt. 2 lbs. 4 oz.

Cat. No. 1751

Only \$12.00

**Standard Engine
Bonanza! SAVE \$5.20**
See Page 19 For Special
Bonus Coupon!



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Half Price Hobby Knife Sale!

SAVE 50¢

Precision X-ACTO
Hobby Knife
NOW ONLY 49¢
See Page 19 For Special
Bonus Coupon!

Ship. Wt. 6 oz.
Cat. No. 2690

~~Reg. 99¢~~



Ship. Wt. 7 oz.
Cat. No. 2689

~~Reg. \$1.75~~

SAVE 87¢

Heavy Duty X-ACTO
Hobby Knife
NOW ONLY 88¢
See Page 19 For Special
Bonus Coupon!

**GANTRY
SALE!**

**SAVE \$1.00
CONDOR
Now Only \$3.75**
See Page 19 For Special
Bonus Coupon!

CONDOR

Skill Level 3

Designed by Estes engineers as a futuristic orbital booster with recoverable shuttle for near-Earth missions, this exotic sports model will be an exciting addition to your model rocketry collection. Shuttle-like parasite glider gives flights up to 90 sec. while realistic booster is recovered via 12" parachute. Economically mini-engine powered, the Condor features great looking decals, die-cut balsa fins, quick-release engine mount, and molded plastic nose cone. Ship. Wt. 12 oz.

Recommended Engines
1/2A3-2T (First Flight)
A3-2T A3-4T

Cat. No. 0807

~~Reg. \$4.75~~

**SAVE \$1.50
ON ORDERS OVER
\$15.00** See Page 17
For Special Super
Bonus Coupon!

**SAVE \$1.00
U.S. ATLANTIS
Now Only \$4.75**
See Page 19 For Special
Bonus Coupon!

**U.S.S.
ATLANTIS**

Skill Level 3

Patrolling the distant outposts of our galaxy are super-fast starships like the USS

Atlantis. This multi-mission star cruiser is designed for patrol, escort, transport, and fleet battle operations. Star flight capability is provided by two giant aft propulsion units. The unique, multi-level flight deck allows massive planet-side operations from synchronous or standard planetary orbit. In addition to superior speed and maneuverability, its powerful weaponry enables it to deal single-handedly with most alien vessels. Kit includes colorful decals, die-cut balsa fins, plastic nose cone, and quick-release engine mount. Excellent performance with impressive 12" parachute for flight-after-flight enjoyment. Ship. Wt. 11 oz.

Recommended Engines
A8-3 B4-4 B6-4 (First Flight) B8-5 B14-5 C6-5 C6-7

Cat. No. 1283

~~Reg. \$5.75~~

1/24 SCALE

LTV Scout

Skill Level 3

Since its first mission in 1960, Scout has been the launch vehicle for more than 90 missions, holding the record for consecutive successes among all NASA launch vehicles. Over 3 feet tall, this model is extremely detailed with many plastic parts and realistically decorated with two-color decals. Other features include molded plastic fins and adapter sections, quick-release engine mount, and big 18" parachute recovery. Ship. Wt. 11 oz.

Recommended Engine
C6-5

Cat. No. 1287

~~Reg. \$8.00~~

**SAVE \$1.75
LTV SCOUT
Now Only \$6.25**
See Page 19 For Special
Bonus Coupon!



"D" POWERED BIRDS



Alpha

Skill Level 2
Great for demonstrations with slow realistic lift-off and dramatic 24" parachute recovery. Flights up to 500 feet with "D" engine. Comes with die-cut balsa fins, molded plastic nose cone, quick-release engine mount and huge decals. Recommended for 3/16" launch rod. Ship. Wt. 16 oz.

Recommended Engine
D12-5

Cat. No. 1291

Only \$10.00
Nearly
3
Feet
Tall!

Engines, Launch
System, Glue, and
Paint not included.

renegade

Skill Level 2
Spectacular, ultra-high performance "D" bird over 33" long. R & D style design gives it a real test vehicle appearance. Low-drag styling and giant 18" chute means an outstanding flight every time. Contemporary decals, quick-release engine mount and die-cut fins. Ship. Wt. 12 oz.

Recommended Engines
D12-5 (First Flight) D12-7

Cat. No. 1271

Only \$6.75

"FREE" GYROC
When you purchase
any one of these "D"
powered birds. See Page
19 For Special Bonus
Coupon!

Lifts-off with
main fins in
straight-away position.
Engine's ejection charge
allows rear fin tips to snap
sideways causing rotor
effect and helicopter recovery.
Flies with 1/2A6-2, A8-3, B6-4,
B8-5 and C6-5 engines.
Cat. No. 1224

\$2.95 VALUE



Mean Machine

Over
6 Feet
Tall!

Skill Level 2
Tallest rocket in the Estes fleet. Over 6 feet long with giant 24" parachute recovery. "D" engine powered for spectacular flights over 800 feet. Easily assembled with die-cut balsa fins, quick-release engine mount, and plastic nose cone. Huge "kit name" decal adds the finishing touch for a really great looking bird.
Ship. Wt. 16 oz. Cat. No. 1295

Recommended Engine
D12-5

Only \$9.00



FLYING MODEL ROCKETS

Laser Torpedo

Skill Level 2

Envisioned by Estes designers to be the most powerful weapon carried aloft and deployed by the Colonial Viper™. Our version features futuristically shaped nose cone, die-cut fins, quick-release engine mount, and scale-like laser weapon decals. The Laser Torpedo™ will reach altitudes over 800 feet with "C" type rocket engine and returns to Earth via 12" recovery chute

Ship. Wt. 6 oz.

Recommended Engines
1/2A6-2 A8-3 (First Flight) A8-5 B4-4
B6-4 B8-5 C6-5

Cat. No. 1311

Reg. \$7.00



SAVE \$2.00
COLONIAL
VIPER™
Only \$6.00
See Page 21 For Special
Bonus Coupon!

COLONIAL VIPER

Skill Level 2

Backbone of Colonial defenses, the Colonial Viper™ is small, fast, and dead on target when encountering the treacherous Cylon Raiders™. This sensational kit is easy-to-assemble with die-cut fins, plastic nose cone, quick-release engine mount, and realistic decals. Can attain altitudes over 600 feet with "C" type rocket engine. The Colonial Viper™ deploys a 12" recovery parachute for a safe flight and gentle recovery time after time.

Ship. Wt. 6 oz.

Recommended Engines
B6-4 (First Flight) C6-5

Cat. No. 1310

Reg. \$8.00

SAVE \$1.25
Flight Pak
Only \$3.25
See Page 21 For Special
Bonus Coupon!



FLIGHT PAK

Features three B6-4 and two C6-5 high performance rocket engines plus parachute recovery wadding and 6 Solar rocket igniters.

Cat. No. 1319 Reg. \$4.50

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ESTES ASTROCAM 110™

Available Now!

Aerial Camera With DELTA II Rocket

FREE FILM!
 Recieve A Free Roll Of
 Kodak Kodacolor 110 Color
 Print Film (ASA 400) When
 You Purchase An AstroCam 110
 With Delta II Rocket!
 See Page 21 For Special Bonus Coupon!

Skill Level 2
 Experience the thrill and excitement of taking incredible color aerial photographs from hundreds of feet in the sky. As your rocket reaches apogee and begins its descent to Earth, the ejection charge of your rocket engine trips the AstroCam 110's 1/500th sec. shutter and "snap" ... you have just taken a dramatic aerial photograph from far above. The "new" AstroCam 110 uses high speed Kodak Kodacolor 110 color print film ASA 400 or equivalent (not included). Film and developing are available locally.

Special features include easy, quick-assembly, high quality acrylic lens, molded plastic housing, glass first surface mirror, and high performance aerodynamic design for minimum drag and maximum altitude. Simple to operate and shoots one, crisp, full color 110 photo per flight. Launch with B8-5, B8-7, B14-5, B14-7, C6-5, or C6-7 engine.

Delta II launch vehicle features specially designed, pre-colored plastic fin-unit for consistently smooth and stable flights. Plus white body tube, quick-release engine mount and great looking, two-color kit decals with dual roll patterns. No painting required! Returns to Earth via 12" dia. parachute. (Launch System, engines, glue, and film are not included.)

Specifications - Camera with Launch Vehicle
 Length 19.1" (48.5 cm)
 Diameter 1.34" (35.3 mm)
 Weight 3.75 oz. (106.3 g)
 Ship. Wt. 14 oz.

Recommended Engines
 B8-5 B8-7 B14-5 B14-7
 C6-5 C6-7 (First Flight)

Actual "AstroCam 110" photo of Three Mile Island facility, Middletown, PA.
 Taken by Scott Pearce, Westchester, PA.



Actual "AstroCam 110" photo of Johnson Space Center, Houston, TX.

FILM AND DEVELOPING AVAILABLE LOCALLY!

Take Incredible "Color" Photos From Hundreds of Feet In The Sky!

Only \$19.00



Camera Specifications:
 Length 6.5" (16.5 cm)
 Diameter 1.39" (35.3 mm)
 Weight (Without Film) 1.36 oz. (38.5 g)
 Weight (With Film) 1.76 oz. (50 g)

#7616
ESTES Bonus Coupon
 Worth \$2.00
 Toward the purchase of THE BLACK HOLE™ Space Probe Flying Model Rocket (#1350).
 (See Page 7) Expires 12-1-'80

#7617
ESTES Bonus Coupon
 FREE "New" EMERGENCY REPAIR KIT Worth \$2.00 when you purchase a STAR WARS™ rocket kit (#1298, #1299, or #1301) on pages 10 & 11.
 (See Pages 10 & 11) Expires 12-1-'80

#7618
ESTES Bonus Coupon
 FREE D12-3 Model Rocket Engines (Pkg. of 3) Worth \$4.25 when you purchase a MAXI X-WING FIGHTER™ (#1302)
 (See Page 11) Expires 12-1-'80

#7619
ESTES Bonus Coupon
 Worth \$2.70
 Toward the purchase of a BLAST-OFF BONUS OFFER (#1750)
 (See Page 12) Expires 12-1-'80

#7620
ESTES Bonus Coupon
 Worth \$5.20
 toward the purchase of a STANDARD ENGINE BONANZA! (#1751)
 (See Page 12) Expires 12-1-'80

#7621
ESTES Bonus Coupon
 Worth 50¢
 Toward the purchase of a Precision X-ACTO Hobby Knife (#2690).
 (See Page 12) Expires 12-1-'80

#7622
ESTES Bonus Coupon
 Worth 87¢
 Toward the purchase of a Heavy Duty X-ACTO Hobby Knife (#2689).
 (See Page 12) Expires 12-1-'80

#7623
ESTES Bonus Coupon
 Worth \$1.00
 Toward the purchase of a CONDOR #0807
 (See Page 13) Expires 12-1-'80

#7624
ESTES Bonus Coupon
 Worth \$1.75
 Toward the purchase of an LTV SCOUT #1287
 (See Page 13) Expires 12-1-'80

#7625
ESTES Bonus Coupon
 Worth \$1.00
 Toward the purchase of a U.S.S. ATLANTIS (#1283)
 (See Page 13) Expires 12-1-'80

#7626
ESTES Bonus Coupon
 "FREE" GYROC
 Worth \$2.95 when you purchase a "D" Powered Bird on page 14.
 (See Page 14) Expires 12-1-'80

#7627
ESTES Bonus Coupon
 Worth \$2.00
 Toward the purchase of a Battlestar Galactica™ Laser Torpedo Rocket Kit (#1311)
 (See Page 15) Expires 12-1-'80

A
\$38.00
VALUE

SAVE \$1.00
Designers Special
NOW ONLY \$14.95
See Page 21 For Special
Bonus Coupon!

Designer's Special

Ideal parts assortment for the creative rocketeer. Develop your own R & D Program. Over 75 pieces at an excellent savings!

Body Tubes
2 BT-5
2 BT-20
2 BT-50
1 BT-55
1 BT-60

Nose Cones
1 BNC-5E
1 BNC-5S
1 BNC-20B
1 BNC-20R
1 PNC-50K
1 PNC-50Y
1 PNC-55AC
1 PNC-60L

Fin Material
2 BFS-20
2 BFS-30
2 BFS-40

Parachutes
1 PK-8
2 PK-12
1 PK-18
1 PK-24

Recovery Equipment
3 Shock Cord 1/8"X18"
1 Shock Cord 1/8"X36"
1 Shock Cord 1/4"X36"
1 Streamer Material 1"X30"
6 Screw Eyes

Miscellaneous
3 Engine Blocks (EB-20A)
3 Engine Holders (EH-3)
3 Engine Holders (EH-2)
1 Engine Mount (EH-2050)
1 Engine Mount (EH-2060)
1 Nose Block (NB-20)
1 Nose Block (NB-50)
1 Stage Coupler (JT-55C)
1 Stage Coupler (JT-60C)
1 Balsa Adapter (TA-2050A)
1 Multi-Purpose Paper Adapter Set (TA-1)
12 Launch Lugs (2-3/8" Long)
1 Alpha Book of Model Rocketry
1 Fin Pattern Sheet No. 2
1 Fin Pattern Sheet No. 3

Ship. Wt. 2 lbs.
Cat. No. 1463

Reg. \$15.95

Big Foot™ MODEL ROCKET LAUNCH CONTROL SYSTEM

The all new Estes Big Foot launch control system is capable of launching all Estes models including Maxi-Brutes. Futuristically designed launch platform features rugged plastic construction and enormous "two foot print" for maximum launch pad stability. Includes blast deflector plate, 1/8"X36" two-piece launch rod, swivel mount that is adaptable to either 1/8" or 3/16" launch rods, and legs which remove easily for compact storage. This launch control unit is newly engineered for simple, quick assembly and features safety key, continuity check light, ignition button and 15 feet of launch cable. Uses 4 inexpensive "D" cell batteries and Estes Solar igniters #2301 (not included). Ship wt. 2 lbs.

SAVE \$1.50
**NEW BIG FOOT LAUNCH
CONTROL SYSTEM**
Now Only \$14.45
See Page 21 For Special
Bonus Coupon!

Requires four "D" cell
batteries for power
(not included).

**USES
INEXPENSIVE
"D" CELL
BATTERIES!**

Cat. No. 2208 ... **Reg. \$15.95**

#7628
ESTES Bonus Coupon
Worth \$2.00
Toward the purchase of a Battlestar
Galactica™Colonial Viper™
Rocket Kit (#1310)
(See Page 15) Expires 12-1-'80

#7630
ESTES Bonus Coupon
FREE B6-4 Model Rocket Engines
(Pkg. of 3) **Worth \$2.15**
when you purchase any
Interplanetary Voyager on pages 16 & 17.
(See Pages 16 & 17) Expires 12-1-'80

#7632
ESTES Bonus Coupon
Worth \$1.00
Toward the purchase of a
Designer's Special Model Rocketry
Parts Assortment #1463
(See Page 20) Expires 12-1-'80

#7634
ESTES Bonus Coupon
Worth 75¢
Toward the purchase of a Wizard
Rocket when you request an Estes
Catalog for two of your friends on
the enclosed Order Form.
(See Page 22) Expires 12-1-'80

#7636
ESTES Bonus Coupon
Worth 50¢
Toward the purchase of a
FIN ALIGNMENT GUIDE (#2231)
(See Page 22) Expires 12-1-'80

#7638
ESTES Bonus Coupon
Worth 50¢
Toward membership in the ESTES
AEROSPACE CLUB #1447
(See Page 23) Expires 12-1-'80

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ESTES Bonus Coupon
Worth \$1.25
Toward the purchase of a Battlestar
Galactica™FLIGHT PAK (#1319)
(See Page 15) Expires 12-1-'80

#7631
ESTES Bonus Coupon
FREE Roll of 110 Color Film
Worth \$2.50
when you purchase an AstroCam
110 Aerial Camera with Delta II
Rocket (#1327)
(See Page 18) Expires 12-1-'80

#7633
ESTES Bonus Coupon
Worth \$1.50
Toward the purchase of a BIG FOOT™
Launch Control System #2208
(See Page 20) Expires 12-1-'80

#7635
ESTES Bonus Coupon
Worth 50¢
Toward the purchase of an
ALTITRAK™Altitude Finder #2232
(See Page 22) Expires 12-1-'80

#7637
ESTES Bonus Coupon
Worth \$2.50
Toward the purchase of a
MARS LANDER #1243
(See Page 23) Expires 12-1-'80

#7639
ESTES Bonus Coupon
FREE C6-3 Model Rocket Engines
(Pkg. of 3) **Worth \$2.35**
when you purchase a
SPACE SHUTTLE #1284
(See Back Cover) Expires 12-1-'80

SAVE 75¢
Introduce Your Friends
To Model Rocketry and get a
WIZARD KIT for Only \$1.20
See Page 21 For Special Bonus Coupons!

Skill Level 1
Recommended
Engines
1/2A6-4 A8-3
A8-5 (First Flight) B4-4
B4-6 B6-4 B6-6 B8-5
B8-7 C6-7
Ship. Wt. 5 oz.

TRACKING EQUIPMENT

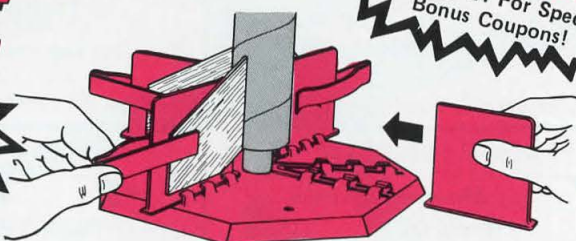
AltiTrak™
Altitude Finder

Skill Level 1
Track your rocket to the top of its flight and instantly lock-in its altitude on the "new" AltiTrak altitude finder. Displays exact model rocket altitude on metric scale -- no guessing! (Conversion table included for feet.) A precision instrument made of durable plastic. Easy-to-assemble and looks like futuristic laser pistol. How high did it go? Now you'll know! Ship. Wt. 15 oz.

Cat. No. 2232 Reg. \$6.00

**FIN
ALIGNMENT
GUIDE**

•QUICK
•EASY
•ACCURATE



Position and glue fins quickly and easily. Fits body tubes up to BT-101. Designed for either 3 or 4 finned rockets aligning fins at 90° or 120° to each other. Easily assembled with slip-together plastic parts. Adjusts quickly with plastic fin position clips. Ship. Wt. 6 oz.

Cat. No. 2231

Reg. \$6.00

HIGH
PERFORMANCE
WIZARD

*Huge 30" Streamer Recovery
*Flights Up To 1600 Feet *Kit Decals
*Die-Cut Balsa Fins *12" Long (30.5 cm)
*Easy-To-Assemble Cat. No. 1292 Reg. ~~\$1.95~~

Just fill-in the names of two of your friends on the enclosed order form who would like to receive a copy of our new, full-color, 64-page, Estes Catalog and we'll send you a Wizard rocket kit for ... **Only \$1.20**

**HOW HIGH
DID IT GO?**

SAVE 50¢
AltiTrak™
Now Only \$5.50

See Page 21 For
Special Bonus Coupons!

SAVE 50¢
Fin Alignment Guide
Now Only \$5.50

See Page 21 For Special
Bonus Coupons!

SAVE \$2.50
MARS LANDER
NOW ONLY \$8.50
See Page 21 For Special
Bonus Coupon!

MARS LANDER

Skill Level 5
Planetary exploration and landing vehicle. Spring-loaded landing gear simulates realistic upright touch-down. Features highly detailed body panels, colorful scale-like decals, quick-release engine mount, and big 18" canopy 'chute. Shipping wt. 16 oz.

Recommended Engines
B4-2 (First flight) B6-2 C5-3 C6-3
Cat. No. 1243... Reg. ~~\$11.00~~



SAVE \$1.50
**ON ORDERS OVER
\$15.00** See Page 17
For Special Super
Bonus Coupon!

Join More Than 25,000 Estes
Rockets Getting The Most
Out Of Model Rocketry
BECOME A MEMBER OF THE

**estes
aerospace
CLUB** TODAY!

You'll discover membership in the Estes Aerospace Club opens up a whole new world of model rocket activities. Membership is permanent, and your membership kit includes:

- **VIPER ROCKET** — Club's Exclusive High Performance Design.
- **MEMBERSHIP CERTIFICATE** — Suitable for framing.
- **CLUB EMBLEM** — Official iron-on patch. As you progress to higher skill levels, you receive additional iron-on "thrust" bars.
- **DECAL SHEET** — Identify your rockets as part of the EAC fleet!
- **RANGE BOX STICKERS** — Stick-ons for your multi-purpose range equipment.
- **EAC STATIONERY** — Distinctive stationery for notes and letters.
- **MODEL ROCKETRY TECHNICAL MANUAL** — Includes information on construction techniques, finishing, stability, tracking, recovery systems, multi-staging, and boost gliders, plus much, much, more.
- **COPY OF MODEL ROCKET NEWS** — Features free plan designs, technical articles, contest, rocketeer contributions and more.
- **EAC PRODUCTS BULLETIN** — Outstanding offers for EAC kits and products available ONLY to members.

**SAVE 50¢ SPECIAL
EAC MEMBERSHIP
ONLY \$3.50** See Page
21 For Special
Bonus Coupon!



**Join NOW! Become an Estes
Aerospace Club Rocketeer TODAY!!**

Simply Check the EAC box on your order form and include your payment. Shipping wt. 9 oz.

Regular EAC Membership (# 1447)... **\$4.00**

**Special EAC Membership Offer
Only \$3.50**

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FLASH!!!!!!
SPECIAL PREVIEW

STAR WARS THE EMPIRE STRIKES BACK

Article By: Diana Attias

Photos Courtesy of: Lucasfilm, Ltd.

Due to be released May 21, 1980 the second incredible STAR WARS science fiction fantasy extravaganza will introduce an amazing variety of new characters, alien places, and fantastic spacecraft. Here's a glimpse of what you can look forward to:

All Terrain Armored Transport (AT-AT; snow walker): Fifty-feet tall armored exoskeletons used to attack the Rebels on the ice planet Hoth. These four-legged death machines are manned by two Imperial pilots and equipped with turnstile guns and laser cannons. Although ungainly, the snow walkers seem invincible.

Avenger: The Avenger Star Destroyer is part of the Imperial space fleet. Its commander, Captain Needa, infuriates Darth Vader by letting the Millennium Falcon escape the Dark Lord's pursuit.

Bespin: The gaseous planet of Bespin, located in the Bespin system, is the home of Cloud City. Bespin is a highly technological planet whose prosperity stems from the rich resources of its Tibanna gas mine. Bespin's Cloud City serves as a temporary refuge for Han Solo and Princess Leia in their escape from Vader's armada of Star Destroyers.

Bespin Guards: The protectors of Cloud City, the lovely pedestal metropolis located on the Bespin planet. The Bespin guards aid their administrator, Lando Calrissian, in helping the Falcon crew escape the clutches of Darth Vader.

Boba Fett: The most notorious bounty hunter in the galaxy, Boba Fett is hired by Darth Vader to hunt the Millennium Falcon and its crew. Dressed in a battered suit of armor, Fett is equipped with wrist lasers, rocket darts, and flying backpack.

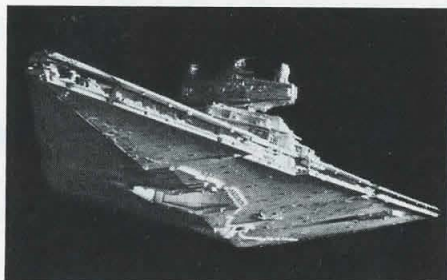
Bossk: One of the alien bounty hunters hired by Darth Vader to track down the elusive Han Solo. A tentacled, Page 24

amphibious monster, Bossk has a soft baggy face housing two huge bloodshot eyes that allow him 300° vision.

Dack: Rebel fighter who serves as Luke Skywalker's gunner in the battle between Rebel snowspeeders and Imperial snow walkers.

Dengar: A mangy, human-type bounty hunter, Dengar is among those summoned by Darth Vader in his pursuit of the Millennium Falcon and its crew.

Major Derlin: A Rebel officer, based at the temporary headquarters on Hoth.



Star Destroyer TM*

Executor: The largest and most fearsome of the Imperial Star Destroyers, the Executor is Darth Vader's ship. Its topside resembles a metropolitan skyline in size and shape, and its long, narrow form lends a properly ominous look to this, the Dark Lord's personal space vehicle.

FX-7 (Effxseven): FX-7 is a medical droid that assists Too-Onebee, the surgeon droid called upon to tend Luke Skywalker's injuries. The droid FX-7 appears to be nothing more than a metal-capped set of cylinders, wires, and appendages.

Hoth: The ice planet Hoth serves as a temporary Rebel base after the one at Yavin is abandoned. Bitterly cold and devoid of most lifeforms, Hoth is a land of vast snowscapes and ice caverns. The Rebels use one of these ice caverns as their headquarters until Imperial forces drive them from this frigid planet in search of another, safer haven for the Rebellion.

IG-88: Also known as the Phlutdroid, IG-88 is a battered and tarnished war droid. Summoned by Darth Vader to search for Han Solo, this chrome-

colored droid is among the most fearsome of the galaxy's bounty hunters.

Lando Calrissian: The suave and dashing administrator of Cloud City, Lando Calrissian is a former associate of Han Solo. Han calls Lando a gambler, con-artist, and all-around scoundrel, but nonetheless seeks his assistance in evading Darth Vader. The opportunistic Calrissian surprises them all by doing all he can to help the Falcon crew escape.

Lobot: Serving as personal aide to Lando Calrissian, Lobot is a tall, bald man who wears a brain enhancer wrapped around the back of his head.

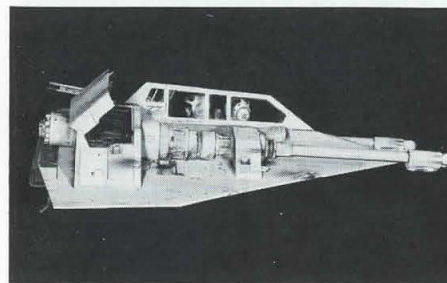
Mynock: Mynocks are five-foot-long tan, leathery creatures that can be found in asteroid caves. These batlike, shapeless creatures fly in packs and are fond of attaching themselves to the hulls of available spacecraft.

Captain Needa: As commanding officer of the Star Destroyer Avenger, Captain Needa arouses the fury of Darth Vader when he allows the Millennium Falcon to elude the pursuing Imperial fleet.

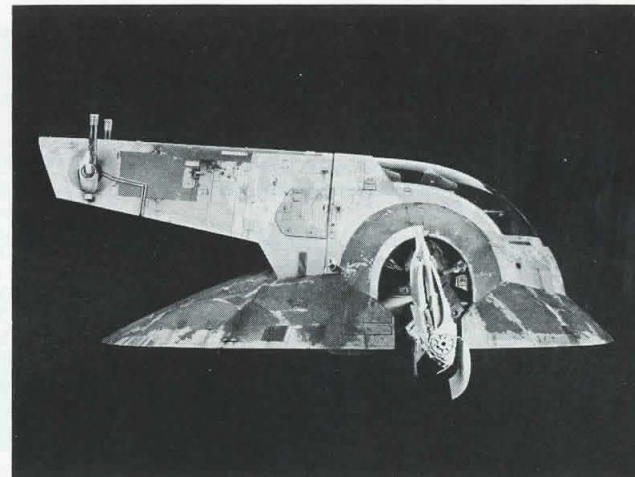
Admiral Ozzel: The squat, evil-looking Admiral Ozzel is the commander of Darth Vader's Imperial forces until his clumsy, ill-planned strategies arouse the Dark Lord to a murderous rage.

Captain Piett: An officer in the Imperial forces, Captain Piett is promoted to admiral after the demise of Ozzel.

Probot (Imperial Probe Droid): Sent by the thousands to seek out Rebel activity all over the galaxy, the Imperial Probe Droids are highly complex surveillance machines. These large, insectlike droids are equipped with sensor appendages that allow them to detect the smallest sign of life.



Rebel Armored Snowspeeder TM*



Slave 1 TM*

Rebel Armored Snowspeeder: These highly maneuverable, two-man vehicles are flown by the Rebels on the ice planet Hoth. Small, snub-nosed craft, the snowspeeders are especially useful in battling the slower, more awkward Imperial snow walkers.

Slave I: Boba Fett's ship, the Slave I, is elliptical in shape and looks somewhat like a helmet in form. This unusual craft is used by Fett in his career as bounty hunter, and is the ship that carries a priceless, carbonite-encased cargo away from Cloud City.

Star Destroyer: These massive, wedge-shaped spacecraft are the flagships of the Imperial forces. Darth Vader's Star Destroyer, the Executor, is the largest of these ships, but all Destroyers inspire awe and fear in the galaxy the Empire would dominate.

Tauntaun: Used as a beast of burden at the Rebel base on Hoth, the Tauntaun is a large gray snow creature covered with matted fur. Its keen senses make the Tauntaun invaluable to the Rebel troops who must depend on these beasts for transportation while guarding their Hoth headquarters.

Too-Onebee (2-1B): The surgeon droid Too-Onebee is programmed to do complex computerized surgery for the Rebel forces. This droid assists Luke in recovering from injuries he sustains after encountering dangerous foes.

Twin-pod Cloud Cars: Cloud cars are the main form of transportation on Bespin's Cloud City. These graceful flying vehicles are composed of two cubiclelike pods connected by an engine structure that powers the craft.

Ugnaughts: These piglike creatures dwell in Cloud City and act as scavengers and all-purpose henchmen.

Also known as hogmen, the Ugnaughts assist in the carbon-freezing process Darth Vader employs against his enemies.

Wampa Ice Creature: The enormous white monster dwelling in the frigid wasteland of Hoth. Luke encounters this horrifying creature and must summon the Force to help him escape the Wampa's icy cavernous home.

Wedge: Rebel pilot of the Rogue Three Snowspeeder in the Hoth battle against the Imperial snow walkers.

Yoda: The Jedi Master, Yoda, dwells on the bog planet Dagobah. This tiny, wizened creature could be any age, but must be at least eight-hundred-years old as he has taught Jedi Knights for that long. The former teacher of Obi-Wan

Kenobi, Yoda undertakes to train Luke in his efforts to become a Jedi Knight and learn to use the Force.

Zuckuss: An unsavory, battle-scarred human bounty hunter summoned by Darth Vader in his relentless pursuit of the Millennium Falcon and its crew.

And of course . . . all of your STAR WARS favorites . . . Princess Leia, Luke Skywalker, Han Solo, Chewbacca, Darth Vader, Artoo-Detoo, and See-Threepio.

Don't miss the exciting STAR WARS blockbuster, THE EMPIRE STRIKES BACK, being shown at a theatre near you on May 21st, 1980 MAY THE FORCE BE WITH YOU!!!

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ASTROCAM 110 PHOTO CONTEST FINALISTS... STILL IN THE RUNNING

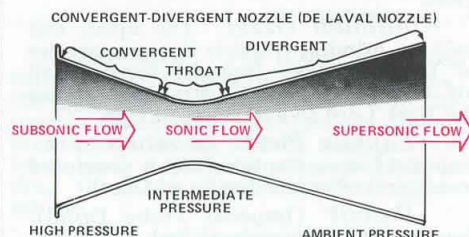
One of the following AstroCam 110 Photo contestants will be chosen as our First Place Winner and will receive the Grand Prize, a fabulous all expense paid trip for four to Disneyland or Disney World! Final results will be announced next issue.

Herbert Desind, Silver Spring, MD. Arthur E. Nestor, Zelienople, PA. Stuart Swan, San Jose, CA. Scott Pearce, West Chester, PA. Jon Waxham, Laurel, MD. Brent Miller, Manhattan Beach, CA. Scott Phillips, Toledo, OH. Larry Sloan, West Chester, PA. John M. Skelton, Independence, MO. Gerard Hosek, Rockford, IL. David Moosa, Eunice, LA. Gary Moore, Garden Grove, CA. Anthony Guarnieri, Warren, MI. Paul Anderson, Abbotsford, CANADA. Ralph Robinson, Pueblo, CO. Wayne Nelson, Brookings, SD. Steven Katz, Laurel, MD. Jeff Cooper, New Oxford, PA. Richard Bookbinder, Beechurst, NY. Kurt Bentz, Calgary, CANADA. Ralph Wagner, Escanaba, MI. Francis Ruzicka, Willard, MO. Don Kelly, Oromocto, CANADA. John Menk, Brenham, TX. Scott Hardy, Harrisonburg, VA. Dale Brown, Greybull, WY. George Misadoques, Naugatuck, CT. Max Bauer, El Cajon, CA. Garren Alldredge, Oak City, UT. John Dietrich, Painesville, OH. Mike Clary, Orange, CA. Owen Wallen, Ft. Collins, CO. Ray Buteux, Suffern, NY. Eddie Richardson, Laurel, MD. Richard Metzger, Houston, TX. William A. Roskey, Columbia, MD. Bret Bahe, Dexter, KS. Paul Wilkin, Holley, NY. Andy Cohen Chatsworth, CA. Michael Borders, Pueblo, CO.

Stump Your Teacher Quiz

Question:

What is a de Laval nozzle?



Answer:

The de Laval nozzle is a special type of nozzle developed in 1889 by Swedish engineer Carl de Laval. Its original function was in gas turbines. Since it converts the heat energy released by the combustion of propellants into directed kinetic (motion) energy of the exhaust gases, it has proven very useful in improving the performance of rocket engines.

This diagram shows the basics of the convergent-divergent or de Laval nozzle. To converge means to come closer together, as the molecules of the exhaust gases when they enter the throat of the nozzle. To diverge means to spread apart. Ambient pressure means the atmospheric pressure in the surrounding area.



THE 1980 UNITED STATES MODEL ROCKETRY TEAM

The Contest

The Fourth World Space Modeling Championships will be held September 7 through 12, 1980, at the U.S. Naval Air Engineering Center in Lakehurst, New Jersey. The contest is sponsored by the National Association of Rocketry (NAR) and is sanctioned by the Federation Aeronautique Internationale (FAI). The contest is expected to draw delegations from twelve to fifteen countries, including Bulgaria, Canada, Czechoslovakia, Great Britain, Hungary, Poland, Rumania, the Soviet Union, Spain, Switzerland, the United States, West Germany, and Yugoslavia.

The United States Team

International rules allow each nation to send three people per event, with a maximum of twelve contestants total from each nation. The American team was selected by the National Association of Rocketry (NAR, the non-profit organization for US model rocketry and an affiliate of the National Aeronautic Association (NAA)) through competitive flyoffs. The team manager is John S. Langford, a member of the American teams in 1974 and 1978 and currently

The Events

Class	Event Name	Allowable Engine Power (Newton-seconds)	Max. Wt. (Grams)	Max. Time (Seconds)
S4D	Eagle Boost-Glide	40.00 (Class D & E engines)	240	300
S2A	Single Payload	10.00 (Class C engines)	90	N/A
S3A	Parachute Duration	2.50 (Class A engines)	100	240
S6A	Streamer Duration	2.50 (Class A engines)	100	120
S5C	Scale Altitude	10.00 (Class C engines)	120	N/A
S7	Scale	80.00 (up to F engines)	500	N/A

with the Lockheed Corporation in Burbank, California.

The team members for this year's competition include:

Philip D. Barnes, student, Washington, D.C.

Robert N. Biedron, student, Ohio State University, South Plainfield, NJ.

David Cook, student, Iowa State, Des Moines, IA.

Christopher C. Flanigan, engineer, General Dynamics Corp., San Diego, CA.

George Gassaway, student, Homewood, AL.

Thomas Hoelle, Systems Analyst, Allen City Data Processing, Ft. Wayne, IN.

Robert W. Justis, IBM Space Shuttle Support Div., Houston, TX.

Chris Morgan, student, University of Maryland, Silver Spring, MD.

Robert W. Parks, engineer, Lockheed Corp., North Hollywood, CA.

F. Randall Ringner, Public Accountant, Pearl River, NY.

Matt M. Steele, student, Kent State University, Medina, OH.

Charles M. Sykos, Systems Analyst, Bell Labs, Somerville, NJ.

Representing the US in Sparrow Glide (Unofficial Event):

Geoffrey A. Landis, Spire Corp./student, MIT, Cambridge, MA.

Gregory Stewart, Mutual Security Life Insurance, Ft. Wayne, IN.

Jeff Vincent, student, Rensselaer Polytechnic Institute, New Scotland, NY.

Defending his World Championship from the 1978 World Championships:

Harold "Guppy" Youngren, student, MIT, Annapolis, MD.

Alternates to the US Team include:

Bernard Biales, Boston, MA

Steven Honecker, Wheaton, MD

Celestine Leahy, Silver Spring, MD

Competition Events

How does one "compete"? The simplicity is deceiving. The National Association of Rocketry lists over thirty events in its Sporting Code, each of which is divided into subcategories according to allowable engine power and model weight. The NAR sanctions numerous local and regional contests each year, and hosts the National Championships (NARAM) each August. It was on the basis of competitive performance at these meets that members of the International Team were selected.

As listed above, seven events have been announced for the upcoming World Championships. They include: Parachute Duration, where the models deploy large parachutes and the maximum flight duration determines the winner; Streamer Duration, where the goal of flight duration is the same but the model returns by streamer, a rectangular strip of paper or plastic instead of a parachute; Boost Glide, where the model ascends vertically under rocket power, drops its engines and glides down; Rocket Glide, essentially the same as boost-glide except the engine cannot be dropped; Payload, where an ounce of lead is carried to the highest possible altitude; Scale, in which an exact replica of a real rocket is submitted along with plans for the real rocket, to be judged on difficulty, accuracy, workmanship, detailing and flight performance; and Scale Altitude, where the model's static judging score is added to the altitude it reaches in meters. To eliminate winning with one lucky flight, all the duration events are conducted with three flights per entry, with a maximum allowable time ("max") on each flight. The times are summed to determine the winner, with a fly-off in the event of ties. Other popular events, though not scheduled at this year's World Championships, include altitude egg lofting and spot landing.

Previous World Championships

Since the most active nations in Space Modeling are the United States and the Eastern European bloc nations, World Championships tend to be held in Eastern Europe. The first international rocket competition was held in 1966 in Czechoslovakia, with a similar contest in 1968. By 1970 the hobby had grown to the point of certification by the Federation Aeronautique Internationale, the Paris-based organization that oversees Championships and World Records of all flying-related sports. The first World Championships were held in Yugoslavia in September of 1972. The Second World Championships were held in 1974 in Dubnica, Czechoslovakia, and the Third in September 1978, in Yambol, Bulgaria.

Financing and Information

Although many European nations support national space model teams, as they do in other international competitions, the costs of travel and competition for American team members are fully met by the individual. Total costs for the 1980 U.S. Team are estimated at \$14,000.00. These funds are raised through private donations and fund-raising activities. For more information on either the American Team or its fund-raising efforts, contact:

1980 U.S. Space Modeling Team
John Langford, Manager
631 East Palm Ave.
Burbank, CA 91501

Help Us Publish The Model Rocket News

Got any good ideas, cartoons, technical articles, or contributions? Then why not submit them to us for possible publication? Our constant aim is to make MRN a better, more interesting magazine and yours may be just the contribution we need.

Illustrations of ideas for the Idea Box and cartoons should be drawn in ink and no smaller than 4 inches by 4 inches. Technical articles and contributions should be well written and photos accompanying the articles should be packed between cardboard sheets to avoid damage.

All contributions become the property of Estes Industries and cannot be returned. Address all material to: MRN Editor, Estes Industries, Penrose, CO 81240.

Should your article, idea, or cartoon be used in MRN, we'll reward your efforts and talents with an Estes Merchandise Certificate, the amount of which will be determined by the MRN editorial staff.

Hope to hear from you soon!

Attention Rocketeers: "Have You Joined The NAR?"

Now that you are an active rocketeer we would like to recommend membership in the National Association of Rocketry.

As an NAR member you will be able to compete in officially sanctioned local, state, national, and even international model rocketry meets. Your rockets and designs will become eligible to set national and international records and most important, you will be kept informed of happenings in model rocketry around the world. Flight insurance is available now too!

Also as a NAR member you will receive a monthly copy of Model Rocketeer, a magazine published as a service by the NAR for its members. It contains news of upcoming model rocketry and space events, manufacturer news, modroc tips, designs and plans, news of the NAR, its members, and other people in the aerospace field. Also, it contains editorials, humor and rocket history.

For more information and a membership application write: NAR Headquarters, Dept. E-9, P.O. Box 725, New Providence, NJ 07974.

JOIN TODAY!

mini FINLESS

SKILL LEVEL 2

WINNER JULY 1979

DESIGN OF THE MONTH CONTEST

BY ALAN J. WAIDE, Pasadena, CA

PARTS LIST

A	1	Body Tube (BT-5) 2"	3070
B	1	Body Tube (BT-5) 3"	3070
C	3	Body Tube (BT-5) 1"	3070
D	1	Stage Coupler (JT-5C)	3050
E	1	Shock Cord	2276
F	1	Streamer	2341
G	1	Tape Discs (TD-1)	2294
H	1	Nose Cone (BNC-5E)	8000
I	1	Launch Lug (LL-2A)	2321

ADDITIONAL MATERIALS:

White glue, sanding sealer, spray paint, sandpaper, hobby knife, ruler, sharp pencil, and mini engine casing.

SECURE
STREAMER WITH
TAPE DISC

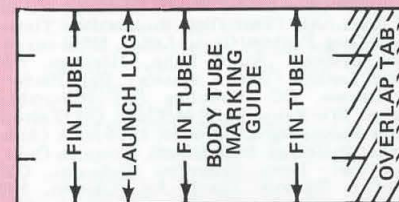
GLUE SHOCK CORD BETWEEN
BODY TUBE AND NOSE CONE
TRIM EXCESS

GLUE SHOCK CORD BETWEEN
BODY TUBE AND COUPLER

USE THIS
TUBE-FIN
CUTTING
GUIDE TO
MARK TUBE-
FIN FOR BEVEL
TRIM.

TRIM END AT BEVEL

BODY
GLUE LINE
TUBE-FIN
CUTTING
GUIDE



RECOMMENDED ENGINES:

1/4A3-2T 1/2A3-2T A3-4T

INTERPLANETARY VOYAGERS

Andromeda

Skill Level 3

Designed for journeys to distant planets this incredible "starship of the future" will perform interplanetary missions within the galaxy. This beauty is over 43" long with giant 18" parachute recovery and simulated hybrid fission-ion propulsion engines. Kit features include die-cut parts, highly detailed decals, and quick-release engine mount. Ship. Wt. 11 oz.

Recommended Engines
B4-4 B6-2 B6-4 (First Flight)
B8-5 C6-5

Cat. No. 1273

Only \$8.00

43"
Long!

**FREE B6-4
MODEL ROCKET
ENGINES** (Pkg. of 3 Worth
\$2.15) when you get any one of
these far-out Interplanetary
Voyagers See page 21 for
Special Bonus Coupon!

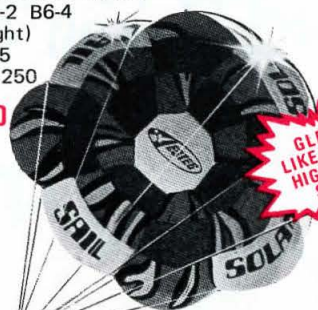
INTERCEPTOR

Skill Level 3

Futuristic version of real interplanetary interceptor. 26" long with dramatic 18" parachute recovery, two big sheets of four-color decals, and quick-release engine mount. Plus all die-cut balsa parts and detailed plastic nose cone, wing pods and tail cone. Ship. Wt. 12 oz.

Recommended Engines
B4-2 B6-2 B6-4
(First Flight)
B8-5 C6-5
Cat. No. 1250

Only \$9.00



GLEAMS
LIKE A JEWEL
HIGH UP IN
SPACE!

SOLAR SAILER

Skill Level 3

Simulates one of the newest, most sophisticated space concepts for the 1980's. Developed for low cost, long duration, deep space missions the real vehicle will use sunlight pressure to push it away from Earth at speeds up to 35,000 mph. Our model features printed balsa fins, quick-release engine mount, and realistic decals. Truly spectacular recovery with giant 24" aluminized mylar solar sail 'chute. Ship. Wt. 11 oz.

Recommended Engines
B4-2 B4-4 B6-2 B6-4 (First Flight)
B8-5 B8-7 C6-5

Cat. No. 1297

Only \$8.00

SPRING 1980

How To Use These Bonus Coupons

When you decide on a purchase from this catalog, look to see if you can use one of the Bonus Coupons. For example if you purchase the LTV Scout on page 13 you can use the Bonus Coupon which allows you \$1.75 toward the purchase of this regularly \$8.00 kit. You would cut out

Super Bonus Coupon

#7612



Worth \$1.50
Toward the purchase
of \$15.00 or more
from this catalog.

Expires 12-1-'80

Bonus Coupon

Save Up To \$53.47 In Discounts
And Special Offers
From This Estes Catalog!

the Bonus Coupon . . . send it in with your order and your check or money order for \$6.25 plus handling charge of \$1.00 . . . and you will receive the LTV Scout for \$1.75 off the regular price. Be sure to enclose all Bonus Coupons used with the order form in your return envelope.

All offers good only with the Order Form enclosed with this catalog. You cannot use these Bonus Coupons at your retail dealer. All offers expire 12/1/'80. Substitutions will be made when necessary.

Bonus Coupon

#7613

FREE D12-3 Model Rocket Engines
(Pkg. of 3) Worth \$4.25
when you purchase any
MAXI-BRUTE on page 2.

(See Page 2) Expires 12-1-'80

Bonus Coupon

#7614

FREE 18" Parachute
Worth \$1.00
When you purchase any NEW
kit on pages 4, 5, & 6.
(Limit one 'chute per customer.)
(See Pages 4,5,&6) Expires 12-1-'80

Bonus Coupon

#7615

Worth \$3.00
Toward the purchase of THE
BLACK HOLE™ Model Rocketry
Outfit (#1426)
(See Page 7) Expires 12-1-'80

ORBITAL TRANSPORT

Skill Level 4

Features dramatic space shuttle concept. Developed for both orbital and near-space missions. Long and sleek transport ship lifts-off vertically with shuttle riding piggy-back.

At engine ejection transport returns via 18" parachute and shuttle becomes gliding re-entry vehicle. Separation of crafts at apogee makes for exceptionally spectacular flights. Includes quick-release engine mount and realistic three-color decals. Ship. Wt. 16 oz.

Recommended Engines
B4-2 B4-4 B6-2 B6-4 (First Flight) B8-5 C6-5
Cat. No. 1242

Only \$7.00

SCISSOR-WING TRANSPORT

Skill
Level 3

This exciting bird introduces the revolutionary new Scissor-Wing concept. Features super SST styling and high flight reliability. Capable of glide times of more than 60 seconds. Internal ejection power pod features vertical stabilizer fins. Comes ready-to-assemble with die-cut parts and two-color decals. Ship. Wt. 16 oz. **Recommended Engines:** B4-2 (First Flight) B6-2 C5-3 C6-3

Cat. No. 1265

Only \$8.00

DESIGN OF THE MONTH WINNERS

Congratulations to another fine group of Estes Rocketeers for their outstanding DOM entries. First place winners will receive \$75.00 merchandise certificates and honorable mentions will be awarded \$10.00 certificates. Keep those entries coming, maybe you'll be our next winner!

MARCH 1979 — Winners: Dan Farrell, East Troy, WI (Glider). Jim Westphal, Humboldt, IA (Solar Launch System). Jack Baumann, Upland, CA (Launch Pad & Controller). Mitch Alvarill, Lodi, CA (Telstar 2). Honorable Mentions: Roger Isbill, Oklahoma City, OK (Damien). Michael Jones, Santa Cruz, CA (Wraith). Jonathan E.D. Schenken, Fort Wayne, IN (KSW-1). David M. Bassett, II, St. Paul, MN (DB-5). Steve Sidor, Redlands, CA (The Unknown). Steve Specker, Fridley, MN (Orbatron). Scott Spera, Bay Village, OH (Vangar I). Ken McClure, Upland, CA (Tri-Bi). Todd Wilson, Billings, MT (Venus 12). Tom Hannah, La Crescenta, CA (The M.X. Missile Air Force I.C.B.M.). Tracy Watkins, Robstown, TX (Angel). Mitchell Stapiech, Fresno, CA (S.A.M.).

APRIL 1979 — Winners: Woodward Howard, Cartersville, GA (Fornax). Anthony DeFranco, Paterson, NJ (Count Down Ignition Panel). Torsten Duffy, Renton, WA (Equinox S.O.B.). Kurt Thearling, Southgate, MI (Zero-Volume Piston Launcher). Honorable Mentions: Richard K. Pautz, Anchorage, AK (The Sting). Roy Gillagly, Topanga, CA (Basilisk 6390). Richard K. Pautz, Anchorage, AK (Capricorn II). Paul De Lello, Yonkers, NY (Neptune). Darrell Higley, Coeur D' Alene, ID (NAT -- US Missile). Miles Conklin, Highland, MI (Apache Arrow). William H. Orr & Sons Systems, Bedford, TX (Salvage-1). Joe Czarnik, Glenview, IL (High Thruster). Scott Parsons, Lakewood, CO (Deimos). Dean Snyder, Sturgis, MI (Astroscan). Chris Peters, Canton, NY (Gull Recovery). Bryan McLane, Hollywood, FL (Boattail). Scott Parsons, Lakewood, CO (Sabaut).

MAY 1979 — Winners: Mark Grebe, York, NE (Thunderbird-3). Caimo F. Bailey, Lorain, OH (Interplanetary Voyager). Ricky Kramer, Voltaire, ND (War Admiral). Honorable Mention: Dave Mattice, Hagman, NY (Stargaze). Ned Hutchinson, Ludington, MI (Arrow). Michael Marchionna, San Jose, CA (Swallow-Tail). Klay E. Gilbert, Wayne, OK (Ring Gli). Mark Williams, Amherst, NH (Astro-Gnat). Jim Tibbs, Sandpoint, ID (Capricorn). Mark Lyons, Yakima, WA (Genie). Steve Rapp, Cornell, IL (Brutus 1-B). Tom Speth, Green Bay, WI (Nereid 6). Frank Bell & Spencer Bell, Atlanta, GA (Demon-X). Shawn Hainsworth, Barrington, RI (Boomerang). Roger Moss, New Britain, CT (Space Bound). Stephen Dobro, Sharon, MA (Alpha 1).

JUNE 1979 — Winners: Eric Duffin, Villa Park, IL (Glider-Roc). Clyde Verhoff, Ottawa, OH (Sky Diver). Kevin Lovelace, North Little Rock, AR (Two Digit Countdown Timer LED 1). Greg Fenton, Grand Lodge, MI (Launch Control System). Steve Hahn, Hastings, NE (Generic Launch Control System). Bob Heiderstadt, Denver, CO (Coupling Jig). Honorable Mentions: Eric Falconburg, McClave, CO (Falcon 5). Peter Karageorgos, Toronto, CANADA (Aids in Rocket Building). Rick Silenzi, Sherman Oaks, CA (Arrow). Terry Skidmore, Delaware, OH (E.C.H.O.). Nguyen Thanh An, Lincoln, NE (Solar IV). Peter Cranshaw, Sherborn, MA (Phoenix-1). Mark Falimirski, Bensenville, IL (Destroyer). Jeff Danison, Delaware, OH (Maxi-Page 30

Interceptor). David Miller, Easthampton, MA (Neutron Duster). Bryan Hughes, Camp Lejeune, NC (S.C.C. -1080 USS Ricon). Ronald Stewart, Albany, LA (Anduril).

JULY 1979 — Winners: Dale Wang, New York, NY (Nautilus). Alan James Waide, Pasadena, CA (Finless). Paul Heward, Green River, WY (Revenge II). Honorable Mentions: Al Lopez, Lakeland, FL (Warshot). James Turner III, Summerville, SC (Optiroc). J. Warnock, Independence, KS (Ragnarok). Mark Smith, Saginaw, MI (Multi-Launcher). Brian Kean, Longmont, CO (Alpha Gamma). Keith Anderson, Duluth, MN (Alfa-Centuri). G. Douglass, Leicester, NY (Umbrella Recovery). Ray Mullan, Greendale, WI (Enforcer). Len Philpot, Bonita, LA (Phobos).

MRN and Free Goodies.. for You!!

Model Rocket News is now published four times a year - Winter, Spring, Summer, and Fall. We will, whenever possible, mail your MRN to you with our seasonal mailings in addition to including it with return mail-orders as long as our supplies last as an exclusive service for our mail-order customers.

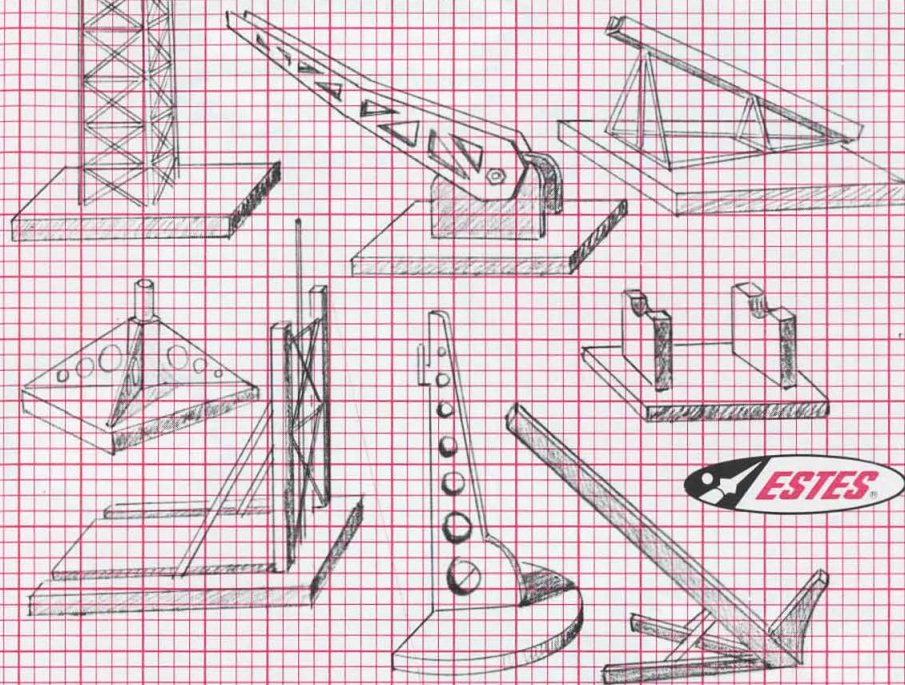
To receive our seasonal mailings you must be an active Estes mail-order customer which requires you to have placed an order for Estes merchandise within the past four months.

Additional Bonuses . . . All orders received on even numbered months, (February, April, June, etc.), will be returned with a "free" plan to help increase your Estes fleet. These new plans feature a variety of designs from single-stage sport models to far-out exotic rockets you will be proud to display. All "free" plans can be constructed from the Estes hi-performance parts and accessories listed in our catalog.

All orders received on odd numbered months will be returned with a free iron-on decal for your t-shirt, windbreaker or range jacket. These iron-ons feature a variety of super-neat designs. You iron it on right at home to any surface containing 50% or more polyester.

Remember . . . these items are available only with return mail-orders!!!!

DISPLAY STAND CONTEST



WIN \$25.00 IN FREE ESTES MERCHANDISE!

Have an idea for an original Display Stand, Gantry or Cradle for your model rockets?

Enter your design in this contest and win \$25.00 in Estes merchandise, if your entry is one of the top twenty. \$500.00 in free Estes merchandise will be awarded!

CONTEST RULES

- Any display stand design may be entered.
- All entries should include a parts list, drawing, and/or diagram. Also, include any instructions which may be helpful. Photos of entries are appreciated, but not required.
- Display stands must be designed from easily available hobby materials such as balsa scraps, leftover model rocket parts, etc.
- Please do not send the actual display stand as it cannot be returned.
- All entries become the property of Estes Industries and cannot be returned.
- Employees of Estes Industries and members of their immediate families are not eligible.
- You may send as many entries as you like.
- Entries will be judged for originality of design, use of materials, neatness, and completeness.
- A \$25.00 Merchandise Certificate will be awarded to the 20 best entries. Decision of the judges is final.
- Winners will be announced in a future issue of Model Rocket News.
- Be sure to include your name, age, address, city, state, and zip code with each entry. Please include your Skill Level if you are an EAC member.
- Mail entries to:
ESTES INDUSTRIES
Display Stand Contest
Penrose, CO 81240
- Deadline for receipt of entries is midnight, July 15, 1980.

GOOD LUCK!

FREE! C6-3 Engines with the space shuttle

**FREE! C6-3
Model Rocket Engines**
(package of 3 with igniters)
**with the purchase of a
SPACE SHUTTLE.**
See Page 21 For Special
Bonus Coupon!

Skill Level 4

Dramatic 1/162nd scale reproduction of America's newest space vehicle. Designed as a reusable near space transportation system with satellite deployment and retrieval capability. This semi-scale orbiter employs glide recovery just like the real thing while boosters and external tank return via 18" parachute recovery. Our model features special stabilizer fins for atmospheric flight which remove easily for display. Kit components include injection molded and vacuformed plastic and die-cut parts plus quick-release engine mount.

**So Realistic, That
From A Distance,
You'd Swear It Was
The Real Thing!!**

**INSIDE! VALUABLE
BONUS COUPONS
Worth Up To \$53.47**
In Discounts And Special
Offers!!! See Pages
17, 19, & 21.



SPECIFICATIONS

Shuttle Length 13.6" (34.5 cm)
Diameter 2.04" (51.8 mm)
Orbiter Length 9.0" (22.9 cm)
Orbiter Wingspan 7.1" (18.9 cm)
Weight 4.37 oz. (124 g)
Shipping wt. 16 oz.

RECOMMENDED ENGINES

C5-3 C6-3
(Engines, Launch System, and Glue
are not included with this kit.)

Cat. No. 1284

ONLY \$12.00



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PENROSE, CO 81240 USA

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U.S. POSTAGE PAID
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